

ABSTRACT OF THE DISCLOSURE

A method for managing static data traffic of at least one light path in an optical network, comprising the steps of achieving load balanced path routing for the at least one light path, assigning wavelengths to demands of the at least one light path, and, switching the at least one
5 light path according to its assigned wavelength. A method for managing dynamic data traffic of at least one light path in an optical network, comprising the steps of routing the K-shortest path, which has the largest interference length (L), and, assigning waveband with a First-Fit network topology based on band/port number restriction and minimum weight.